SNOW SURVEYS AND IRRIGATION WATER FORECASTS

FOR OREGON

AS OF

MARCH 1, 1939

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Issued March 9, 1939
Medford Branch of the Oregon Experiment Station
Medford, Oregon

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The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Bureau of Agricultural Engineering of the U. S. Department of Agriculture, in cooperation with the Oregon State Engineer, Oregon Experiment Station and other Federal, State and local organizations. 1/

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1/ The snow measurements are made principally by field personnel of the following organizations:

STATE

Oregon State Engineer and corps of State Watermasters
Oregon Agricultural Experiment Station
Oregon State Highway Engineers
Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys

FEDERAL

Department of Agriculture
  Bureau of Agricultural Engineering
  Forest Service
  Weather Bureau
  Biological Survey
Department of Interior
  Geological Survey
  Bureau of Reclamation
  Indian Service
  National Park Service

PUBLIC UTILITIES

The California Oregon Power Company
Eastern Oregon Light and Power Company
Portland General Electric Company

MUNICIPALITIES

City of LaGrande
City of The Dalles
City of Corvallis

MUNICIPAL DISTRICTS

Deschutes County Municipal Improvement District
Medford Irrigation District
Warmsprings Irrigation District
Ochoco Irrigation District
Grants Pass Irrigation District

2/ Water content determined by melting a measured sample. (The California Oregon Power Company Station)

3/ N. R. = No Report.

STATUS OF RESERVOIR STORAGE AS OF MARCH FIRST

In the following tabulation, water storage in acre feet in some selected Oregon reservoirs as of about March 1, 1939 is compared with storage as of approximately the same time in 1938 and 1937.

Storage Reservoir	Stream Basin	Capacity Acre Ft.	Acre Feet in Storage About 3-1-39	About 3-1-38	About 3-1-37
Agency Valley	Malheur	60,000	44,120	27,670	19,950
Antelope	Owyhee	33,434	3,900	14,000	4,500
Clear Lake	Lost River	440,240	230,160*	120,160*	47,420*
Crane Prairie	Deschutes	55,220°	30,800	40,235	37,800
Crescent Lake	Deschutes	80,000	56,760#	33,680	26,300
Drew Creek	Goose Lake	62,500	33,390	42,460	35,500
Emigrant Gap	Rogue	8,200	2,716	6,704	1,090
Fish Lake	Rogue	7,720	6,127	4,350	4,884
Four Mile Lake	Klamath***	14,000	10,394	11,767	8,747
Gerber	Klamath	94,000	36,370	35,050	35,540
Hyatt Prairie	Klamath***	16,900	10,810	7,665	5,000
McKay	Umatilla	75,000	30,110	30,790	8,054
Ochoco	Crooked	47,500	21,900	14,710	2,100
Owyhee	Owyhee	715,000	534,020	600,000#	630,230
Upper Klamath Lake	Klamath	524,800*	405,400*	421,800*	226,900*
Wallowa Lake	Wallowa	40,920	36,960	14,610	7,120
Warm Springs	Malheur	170,000	141,600	42,250	16,000
Willow Creek	Malheur	26,000	4,000**	750	Dry
Thief Valley	Powder	17,400	11,045	17,400	8,180

* Available for use.
** Estimated.
*** By ditch to Rogue River side.
° 40,500 by agreement.
\# Approximate

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

Generally heavy storms early in February increased the snow cover very materially over the amounts reported for Oregon as of February 1, 1939. Above elevations of 5,000 feet, water content of twenty-five courses measured both this and last month has doubled on the average, and below 5,000 feet water content of nineteen courses measured both this and last month has, on the average, nearly tripled.

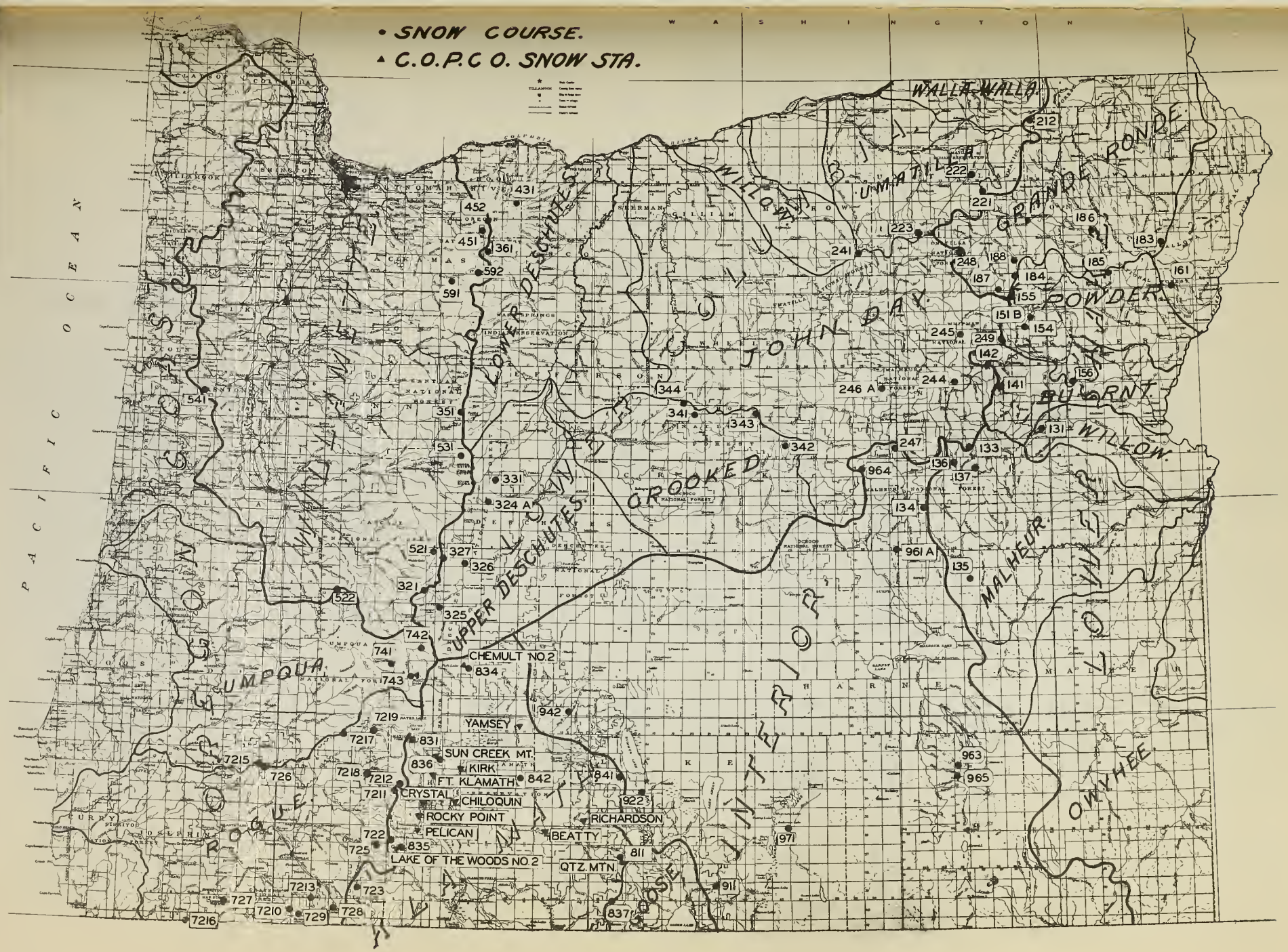
Above 5,000 feet elevation, for Oregon as a whole, snow water content was slightly greater on March 1, 1939 than last year at the same time, and was about 93 percent and 72 percent respectively of that of March 1 in 1937 and 1936.

For elevations from 3,000 to 5,000 feet, for the State by and large, snow water content on March 1, 1939 was about one-quarter greater than last year at the same time, but only about 60 percent of that of March 1 of both 1937 and 1936.

The greatest increase in snow cover since last month, at elevations both above and below 5,000 feet, appears to have occurred in the Walla Walla, Umatilla and Rogue River Basins. Snow water contents have also increased very materially on the headwaters of the Clackamas River.

Soil of the watersheds is mostly unfrozen or frozen only to depths of one-half to four inches, and in nearly all locations is reported as wet. Between February 1 and March 1 the depth of frozen ground decreased at some locations.

Final seasonal snow measurements will be made on all Oregon snow courses during the closing days of March and more definite water supply forecasts will be issued early in April.


• SNOW COURSE.
▲ C.O.P.C O. SNOW STA.
WASHINGTON
PACIFIC OCEAN
WALLA WALLA
UMATILLA
GRANDE RONDE
WILLOW
JOHN DAY
POWDER
BURNT
WILLOW
CROOKED
LOWER DESCHUTES
UPPER DESCHUTES
MALHEUR
OWYHEE
UMPQUA
ROGUE
CHEMULT NO.2
YAMSEY
SUN CREEK MT.
KIRK
FT. KLAMATH
CRYSTAL
CHILOQUIN
ROCKY POINT
PELICAN
LAKE OF THE WOODS NO.2
BEATTY
RICHARDSON
QTZ. MTN.
431
452
451
361
592
591
541
351
531
331
324 A
521
327
326
321
522
325
742
741
743
834
942
7219
7217
831
836
842
841
922
7215
726
7218
7212
7211
722
725
835
811
971
911
837
7213
723
727
7210
729
728
7216
212
222
221
223
241
186
183
188
248
187
184
185
161
155
151 B
154
245
249
142
156
141
246 A
244
344
341
343
342
131
247
133
136
137
964
134
961 A
135
963
965

TRIBUTARY BASINS (Primary & Secondary & Snow Courses)	Oregon Number	LOCATION Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About March 1, 1939 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	AVERAGE WATER DEPTH (INCHES) One Month ago (2-1-39)	One Year ago (3-1-38)	Two Years ago (3-1-37)	Three Years ago (3-1-36)
UPPER COLUMBIA DRAINAGE												
LOWER SNAKE IN OREGON												
OWYHEE RIVER												
Big Bend	Nev.	30	45N	56E	6800	3-3	32.3	7.2	-	8.2	9.4	16.4
Fry Canyon	Nev.	32	43N	54E	6800	3-2	39.6	10.0	-	7.2	10.0	18.1
Gold Creek Ranger Station	Nev.	32	45N	56E	6600	3-3	21.2	4.5	-	4.8	7.7	11.1
Granite Peak	Nev.	27	44N	39E	8600	3-5	41.5	12.8	-	13.5	7.9	13.5
Lower Buckskin	Nev.	25	45N	39E	6800	3-3	28.0	6.7	-	8.1	8.3	11.0
Lower Jack Creek	Nev.	19	42N	53E	7000	3-2	28.1	7.9	-	2.4	4.5	8.2
Martin Creek	Nev.	24	44N	39E	7000	3-4	26.7	5.8	-	8.1	6.0	7.9
Rodeo Flat	Nev.	31	43N	54E	7000	2-28	45.3	11.0	-	6.5	8.6	18.8
Silver City	Idaho	6	5S	3W	6400	2-27	34.6	6.4	8.8	7.1	21.9	-
Taylor Canyon	Nev.	32	39N	53E	5200	2-28	20.5	6.0	-	4.9	7.8	10.3
Upper Buckskin	Nev.	14	45N	39E	8200	3-1	25.1	8.0	-	7.2	6.8	13.3
Upper Jack Creek	Nev.	9	42N	53E	7800	3-2	45.4	12.9	-	4.5	7.3	15.4
South Mountain	Idaho	19	9S	5W	5100	2-28	20.2	4.9	-	0.9	-	7.6
MALHEUR RIVER												
Blue Mountain Spring	133	21	15S	35E	5900	3-1	50.7	13.9	7.4	19.0	15.3	18.6
Rock Spring	134	23	18S	32E	5100	2-28	17.1	5.8	3.7	5.5	7.9	10.4
Lake Creek	136	10	16S	33½E	5120	2-28	45.7	11.2	6.5	9.0	-	-
Stinking Water	135	6	21S	37E	4800	3-2	13.5	3.8	2.9	3.0	-	-
Crane Prairie	137	24	16S	34E	5375	2-23	38.4	10.1	5.4	8.1	-	-
BURNT RIVER												
Blue Mountain Summit	141	6	12S	36E	5098	2-28	34.6	9.2	5.0	6.7	9.3	10.5
Dooley Mountain	156	32	11S	40E	5430	2-27	22.7	5.3	2.9	-	-	-

TRIBUTARY BASINS (Primary & Secondary & Snow Courses)	Oregon Number	LOCATION Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About March 1, 1939 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	AVERAGE WATER DEPTH (INCHES) One Month ago (2-1-39)	One Year ago (3-1-38)	Two Years ago (3-1-37)	Three Years ago (3-1-36)
POWDER RIVER												
Anthony Lake	155	18	7S	37E	7125	2-25	72.5	21.8	13.6	-	-	-
Bourne	154	33	8S	37E	5800	2-27	52.6	12.9	7.8	14.1	10.2	16.0
Dooley Mountain	156	32	11S	40E	5430	2-27	22.7	5.3	2.9	-	-	-
Eilertson Meadows	151B	18	8S	38E	5400	2-28	35.5	15.1	9.0	11.5	-	-
Gold Center	249	21	9S	36E	5340	2-26	49.5	12.6	7.0	-	-	-
GRANDE RONDE RIVER												
Anthony Lake	155	18	7S	37E	7125	2-25	72.5	21.8	13.6	-	-	-
Beaver Reservoir	188	8	5S	37E	5340	2-28	48.7	16.6	8.2	-	-	-
Schoolmarm	248	28	4S	34E	4775	2-26	23.3	7.3	3.0	-	-	-
LOWER COLUMBIA DRAINAGE												
WALLA WALLA RIVER												
Toll Gate	212	32	4N	38E	5070	3-5	111.0	34.6	14.1	-	-	-
UMATILLA RIVER												
Emigrant Springs	222	29	1N	35E	3925	2-25	33.1	10.4	2.9	5.2	-	14.2
Meacham	221	24&25	1S	35E	4300	2-25	46.2	13.3	4.0	6.7	-	16.1
Lucky Strike	223	28	3S	32E	5050	3-1	52.0	14.5	6.0	-	-	-
JOHN DAY RIVER												
Beech Creek Summit	246A	4	12S	30E	4800	2-25	23.1	7.6	4.0	6.9	10.7	9.3
Blue Mountain Spring	133	21	15S	35E	5900	3-1	50.7	13.9	7.4	19.0	15.3	18.6
Blue Mountain Summit	141	6	12S	36E	5098	2-28	34.6	9.2	5.0	6.7	9.3	10.5
Gold Center	249	21	9S	36E	5340	2-26	49.5	12.6	7.0	-	-	-
Izee Summit	964	28	16S	29E	5293	2-26	25.8	9.1	5.5	6.7	8.3	11.0
Olive Lake	245	14	9S	33½E	6000	2-28	55.7	13.5	7.4	16.2	16.0	20.7
Schoolmarm	248	28	4S	34E	4775	2-26	23.3	7.3	3.0	-	-	-
Starr Ridge	247	20	15S	31E	5156	2-28	23.8	5.6	1.9	3.3	7.3	7.5

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DESCHUTES RIVER												
Marks Creek	344	25	12S	19E	4540	2-28	21.6	5.6	2.2	4.8	-	-
Ochoco Meadows	341	21	13S	20E	5200	2-26	33.5	9.6	5.7	10.0	13.6*	13.5**
SANDY RIVER												
Still Creek	451	25	3S	8½E	3700	2-27	68.1	22.4	9.6	12.8	-	-
Phlox Point - Mt. Hood	452	6	3S	9E	5600	3-2	151.8	54.7	33.0	42.8	-	-
CLACKAMAS RIVER												
PEAVINE RIDGE	591	14&15	6S	7E	3500	3-1	58.5	19.2	9.6	13.0	-	-
Clackamas Lake	592	35	5S	8½E	3400	2-28	45.6	13.7	5.3	10.2	-	-
WILLAMETTE RIVER												
Champion	522	12	23S	1E	4500	2-28	102.8	37.0	18.0	-	-	-
INTERIOR DRAINAGE												
SILVER LAKE												
Silver Creek	942	25&26	29S	13E	4900	2-28	10.4	4.4	2.8	-	-	-
CHEWAUCAN RIVER												
Mill Creek	922	1	34S	17E	6200	2-16	19.7	5.4	-	-	-	-

* February 19
** February 14

TRIBUTARY BASINS (Primary & Secondary & Snow Courses)	Oregon Number	LOCATION Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About March 1, 1939 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	AVERAGE WATER DEPTH (INCHES) One Month ago (2-1-39)	One Year ago (3-1-38)	Two Years ago (3-1-37)	Three Years ago (3-1-36)
HARNEY BASIN												
Idylwild Camp	961A	33	20S	31E	5200	2-28	16.8	5.9	3.0	6.1	5.7	10.9
Izee Summit	964	28	16S	29E	5293	2-26	25.8	9.1	5.5	6.7	8.3	11.0
Rock Spring	134	23	18S	32E	5100	2-28	17.1	5.8	3.7	5.5	7.9	10.4
Starr Ridge	247	20	15S	31E	5156	2-28	23.8	5.6	1.9	3.3	7.3	7.5
WEST COAST DRAINAGE												
UMPQUA RIVER												
Diamond Lake	743	29	27S	6E	5315	2-28	62.6	18.3	12.2	18.2	21.2	-
No. Umpqua near Lake Creek	742	19	26S	6E	4215	2-27	51.6	17.5	-	-	14.1*	-
Trap Creek	741	1	27S	4E	3800	2-25	54.5	15.9	-	-	14.4**	-
Goolaway Gap	726	32	32S	3W	3000	2-27	14.3	4.9	0.5	-	-	-
Goolaway Mountain	7215	30	32S	3W	3730	2-27	34.0	10.9	2.5	-	-	-
ROGUE RIVER												
Annie Spring	831	19	31S	6E	6018	2-23	95.8	34.0	26.5	41.6	37.8	52.1
Billie Creek Divide	722	17	36S	5E	6000	2-21	80.1	27.8	11.3	18.4	27.4	36.3
Fish Lake	725	3	37S	4E	4865	2-19	51.9	17.1	3.3	11.6	17.2	19.2
Goolaway Gap	726	32	32S	3W	3000	2-27	14.3	4.9	0.5	-	-	-
Goolaway Mountain	7215	30	32S	3W	3730	2-27	34.0	10.9	2.5	-	-	-
Hyatt Prairie Reservoir	723	13	39S	3E	4900	2-24	37.8	11.9	5.7	12.6	15.0	11.4
Seven Lakes No. 1	7211	3	34S	5E	6800	2-22	115.9	45.3	-	-	-	-
Seven Lakes No. 2	7212	26	33S	5E	6200	2-22	105.6	38.8	-	-	-	-
Silver Burn	7219	30	30S	4E	3720	3-1	47.6	15.7	6.4	16.1	16.3	-
Siskiyou Summit	728	17	40S	2E	4630	2-27	22.3	6.6	4.5	11.3	14.5	-
South Fork Canal	7218	12	33S	3E	3500	3-1	26.9	9.0	3.7	6.8	11.6	-
Wagner Butte	7213	1	40S	1W	6800	2-22	47.4	14.5	6.4	16.7	-	-

* - Feb. 19, 1937 ** - Feb. 16, 1937

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KLAMATH LAKE BASIN												
Annie Spring	831	19	31S	6E	6018	2-23	95.8	34.0	26.5	41.6	37.8	52.1
Beatty 2/		22	36S	12E	4300	2-28	0.0	0.0	1.2	0.0	1.5	0.0
Billie Creek Divide	722	17	36S	5E	6000	2-21	80.1	27.8	11.3	18.4	27.4	36.3
Chemult No. 1	834	21	27S	8E	4760	2-28	25.2	8.7	5.3	12.5	10.5	-
Chemult No. 2 2/		21	27S	8E	4761	2-28	22.0	7.5	3.2	12.0	10.2	12.5
Chiloquin 2/		34	34S	7E	4187	2-28	11.5	3.2	1.6	4.4	4.0	2.0
Crowder Flat (California)		30	47N	17E	5200	2-27	12.6	3.6	1.3	-	-	-
Crystal 2/		26	34S	6E	4200	2-28	28.0	9.0	4.2	6.5	10.5	11.5
Fort Klamath 2/		22	33S	7½E	4150	2-28	20.2	6.1	2.8	8.6	8.2	7.4
Hyatt Prairie Reservoir	723	15	39S	3E	4900	2-24	37.8	11.9	5.7	12.6	15.0	11.4
Kirk 2/		1	33S	7E	4533	2-28	18.0	8.5	2.0	7.0	9.5	14.6
Lake of the Woods No. 1	835	11	37S	5E	4960	2-28	39.2	9.7	3.5	10.2	9.4	-
Lake of the Woods No. 2 2/		15	37S	5E	4960	2-28	50.0	10.5	7.2	5.8	13.2	15.5
Quartz Mountain 2/		33	37S	16E	5504	2-28	18.0	6.9	6.5	10.5	7.2	9.8
Pelican 2/		10	36S	6E	4200	2-28	20.0	5.9	1.9	4.0	7.0	3.2
Richardson Ranch 2/		22	35S	14E	4800	2-28	9.0	2.1	1.0	3.2	4.7	4.0
Rocky Point 2/		26	35S	6E	4150	2-28	16.0	4.8	1.2	4.2	9.2	3.9
Seven Lakes No. 1	7211	3	34S	5E	6800	2-22	115.9	45.3	-	-	-	-
Seven Lakes No. 2	7212	26	33S	5E	6200	2-22	105.6	38.8	-	-	-	-
Summer Rim	841	15	33S	16E	7200	2-24	34.5	9.2	N.R.	15.2	-	-
Sun Mountain	836	22	32S	7½E	5350	3-1	65.2	22.9	12.1	24.4	-	-
Taylor Butte	842	16	33S	11E	5100	2-28	14.9	3.8	2.4	-	-	-
Yamsey 2/		19	30S	11E	4600	2-28	5.5	1.9	0.6	3.0	8.4	2.0
Strawberry	837	4	40S	16E	5600	2-26	25.2	8.7	5.2	8.8	-	-
Quartz Mountain	811	2	38S	16E	5320	2-28	18.3	4.8	2.2	-	-	-
GOOSE LAKE BASIN												
Quartz Mountain 2/		33	37S	16E	5504	2-28	18.0	6.9	6.5	10.5	7.2	9.8
Quartz Mountain	811	2	38S	16E	5320	2-28	18.3	4.8	2.2	-	-	-
Strawberry	837	4	40S	16E	5600	2-26	25.2	8.7	5.2	8.8	-	-